

Amendments to the Specification

Please add the following heading and new paragraph after paragraph [0009]:

BRIEF DESCRIPTION OF THE DRAWINGS

[0009.1] Not applicable.

Please replace paragraph [0024] at pages 8-9 of the specification with the following new paragraph [0024]:

[0024] In embodiments wherein an in situ plasma source is used to activate the cleaning chemistry, molecules of the one or more chemical agent may be broken down by the discharge to form reactive ions and radicals. For example, the fluorine-containing chemical agent NF₃ can be broken down into fluorine-containing ions and radicals that can react with the TiO₂-containing substance to form a volatile product that can be removed from the reactor by vacuum pumps. The reaction between the reactive species and TiO₂-containing substances can be activated and/or enhanced by heating the reactor to a temperature sufficient to dissociate the one or more chemical agent contained within the reactive gas. The specific temperature required to activate the cleaning reaction with the substance to be removed depends on the cleaning agent(s) adopted. For in situ plasma activation, one can generate the plasma using a 13.56 MHz RF power supply with a RF power density of at least 0.2 W/cm², or at least 0.5 W/cm², or at least 1 W/cm². One can also operate the in situ plasma at RF frequencies lower than 13.56 MHz to enhance ion assisted cleaning of grounded reactor walls. The operating pressure may range from 2.5 mTorr to 100 Torr, or from 5 mTorr to 50 Torr, or ~~from 10~~ from 10 mTorr to 20 Torr. Optionally, one can also combine thermal and plasma enhancement.